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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,684	04/16/2001	Zhong-Min Wei	21829/71 (EBC-005)	8258

7590 10/24/2002
Michael L. Goldman
NIXON PEABODY LLP
Clinton Square
P.O. Box 31051
Rochester, NY 14603

EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT PAPER NUMBER

1638

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/835,684

Applicant(s)

Wei et al

Examiner

Medina A Ibrahim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 26 July 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 21-42 and 47-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-20 and 43-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in Paper No. 7 is acknowledged.

The traversal is on the ground(s) that the restriction requirement as set forth in the Office action of 07/03/2002 is improper because the three groups of invention are sufficiently related and would require common areas of search and consideration.

Applicants argue that there is no distinction distinguishing the protein or the polypeptide used for topical treatment in claims 1 and 43 of Group I from the protein and the polypeptide applied in claims 25 and 48 of Group III. Applicants further argue that the restriction requirement between different pathogens is improper and that the various hypersensitive response (HR) elicitor proteins or polypeptides are known to fall within art recognized class of proteins.

Applicants' arguments regarding the coexamination of all groups are not found persuasive because of the following reasons: 1) the inventions are drawn to three different methods that use divergent products and plants, and therefore, the modes of operation, effects, and results are all different, as stated in the last Office action. The method of Group I requires isolated HR elicitor protein or polypeptide and a topical treatment of the plant or plant parts which are not required by the method of Group II, while the method of Group II requires transformation of plants and seeds with a DNA molecule not required by the method of Group I. The method of Group III requires both transformation of plants or plant parts with a DNA molecule and topical treatments of plants or plant parts with HR elicitor protein or polypeptide to inhibit postharvest

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diseases which are not required simultaneously by any of the other groups. In addition, while the three inventions are interrelated in part, there is no reason to believe that their coexamination is not an undue burden on the Examiner.

Regarding the restriction between different pathogens, Applicants arguments are found persuasive and therefore, the restriction requirement between the various pathogen HR elicitor proteins has been withdrawn.

With respect to classification of Group III, it is maintained that class 435, subclass 69.1 is applicable because transformation of a plant with a DNA molecule as recited in the claims involve recombinant techniques. Regarding the classification of Group I, the 435/6 has been changed to 47/58.1.

Therefore, the restriction requirement between inventions I-III is still deemed proper and is therefore made FINAL.

Claims 1-50 are pending. Claims 1-20 and 43-46 are under examination. Claims 21-42 and 47-50 are withdrawn from consideration as being drawn to a non-elected invention.

The preliminary amendment (A) has been entered.

Sequence Listing

Applicant's CRF and paper sequence listing have been entered.

Information Disclosure Statement

Initialed and dated copy of Applicants' IDS form 1449 of Paper No 5 is attached to the instant Office action.

Drawings

No drawings are filed with this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-20 and 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wei et al (US 5, 776, 889, filed July 1997, Applicants' IDS) in view of Fajardo et al (Biological Control: Theory and Applications in Pest Management; Vol 13, no. 3, pp. 143-151 (U)).

Claims are drawn to methods of inhibiting post harvest disease or desiccation in a plant and enhancing the longevity of fruit or vegetable ripeness by treating a fruit or

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vegetable with an isolated hypersensitive response elicitor protein or polypeptide including those from *Erwinia*, *xanthomonas*, *Pseudomonas*, *phytophthora* and *Clavibacter*, under conditions effective to inhibit post harvest disease or desiccation and enhance longevity of fruit or vegetable ripeness.

Wei et al teach a method of imparting pathogen resistance to plants comprising applying externally to a plant isolated hypersensitive response eliciting protein or polypeptide from a wide variety of pathogens including fungal pathogens and the bacterial pathogens of *Erwinia*, *xanthomonas* and *Pseudomonas*. The reference teaches that the HR eliciting protein can be applied in aqueous or powdered form to all or part of the plant being treated (see at least 7 and 21-22). Wei et al do not specifically teach the use of the HR eliciting protein or polypeptide to inhibit postharvest disease or desiccation in a fruit or vegetables or enhance longevity of the fruit or vegetable ripeness.

Fajardo et al teach the importance of elicitors in enhancing resistance against green mold in harvested oranges. Fajarado et al teach application of elicitor proteins to harvested crops reduced disease occurrence, especially during storage and transport of the harvested crops, as compared to untreated plants (see pages 143-151).

Therefore, one of ordinary skill in the art would have been motivated to use isolated HR elicitor proteins or polypeptide to inhibit crop diseases as taught by Wei et al, given the importance of HR elicitors applications to plants or plant parts, especially fruits, in preventing postharvest diseases, at storage and during transport as taught by

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Fajardo et al. Therefore, the invention as whole would have been a *prima facie* obvious.

Remarks

No claims are allowed.

Papers related to this application may be submitted to Technology Sector 1 by facsimile transmission. Papers should be faxed to Crystal Mall 1, Art Unit 1638, using fax number (703) 308-4242. All Technology Sector 1 fax machines are available to receive transmission 24 hrs/day, 7 days/wk. Please note that the faxing of such papers must conform with the Notice published in the Official Gazette, 1096 OG 30 (November 15, 1989).

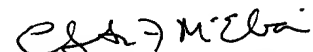
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Medina A. Ibrahim whose telephone number is (703) 306-5822. The Examiner can normally be reached Monday-Thursday from 8:30AM to 5:30PM and every other Friday 9:00AM to 5:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Amy Nelson, can be reached at (703) 306-3218.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0196.

10/15/2002

Mai


ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1800